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GRAVE INKEE MATHEMATICS: MODULE 2

NUMBERS

Home Instructor's Guide: Days 1-9 and Assignment Booklet 2A







Grade Three Mathematics
Module 2: Numbers Count
Home Instructor's Guide: Days 1–9 and Assignment Booklet 2A
Learning Technologies Branch
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This document is intend	ed for
Students	1
Teachers	1
Administrators	
Home Instructors	1
General Public	
Other	



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- Alberta Learning, http://www.learning.gov.ab.ca
- Learning Technologies Branch, http://www.learning.gov.ab.ca/ltb
- Learning Resources Centre, http://www.lrc.learning.gov.ab.ca

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MODULE 2: NUMBERS COUNT

The main goal for this module is to help the student develop a number sense for the numbers to 1000. Most students learn to read and write numbers quickly, but to truly understand large numbers they need many experiences. In this module, the student will estimate, build, compare, and order large sets. He or she will also learn how place value gives meaning to numbers.

To understand numbers fully, the student must see that numbers are related in many ways that make sense. To help build this understanding, the student learns to represent and describe numbers in many different ways. The ability to break numbers down to smaller components expands the student's knowledge of number relationships. Rounding numbers to the nearest 100 increases estimating strategies.

In the last few days of this module, fractions, numbers that are less than one, are discussed. The student builds on concepts introduced in earlier grades and learns how fractions are written. The idea that fractions can be part of a region or part of a set is introduced.

Try to connect what your student is learning to everyday situations. Call the student's attention to large numbers you encounter in newspapers, magazines, or in your surroundings. Telephone numbers and street addresses are good examples. Make up number riddles, such as those your student encounters on Day 7 of the module. Play target games where a certain target number must be reached by adding smaller numbers. Cooking is a great way to use fractions in a real-life situation. Posing questions about how food can be divided into equal servings is another way to use fractions in everyday life.

DAILY SUMMARY

DAY 1: In the first activity, your student reviews counting to 1000 by counting beans. Other small objects, such as pennies or buttons, may be substituted for beans if you wish. This activity, while time consuming, helps the student understand and visualize how large a set of 1000 is. If necessary, review counting large numbers. Some students have trouble with the transition from one hundred to the next. For example, they may ask, "What comes after 599?" Encourage your student to think about grouping the objects to count. Many students will start with groups of ten and then decide that groups of one hundred are also necessary. Discuss why the student chose the groups that were used.

The student is encouraged to use what has been learned about writing the numbers to 100 to write larger numbers. Using the pattern from 1 to 99, the student adds a hundreds digit. The word *digit* may be unfamiliar to your student. You may wish to add it to your student's math vocabulary chart. A digit is any one of the ten symbols (0, 1, 2, 3, 4, 5, 6, 7, 8, or 9) used to write numbers.

The last part of the lesson helps the student understand why making groups makes it easier to count large numbers. The student is also introduced to the base ten blocks that will be used throughout this module.

DAY 1: LESSON 2

Answers

1.

ı	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2. The ones and tens digits are the same, but a digit showing hundreds is added.

3. a. 235 236 **237 238 239** b. 893 894 **895 896 897** c. 439 440 **441 442 443**

DAY 1: LESSON 3

Answers

- 1. a. **4** tens and **3** ones Number: **43**
 - b. 8 tens and 4 ones
 Number: 84
 - c. 2 tens and 2 ones Number: 22

2. a. 10

b. 100

c. 1000

3. a. 3 hundreds, 5 tens, and 1 ones

Number: 351

b. 6 hundreds, 2 tens, and 9 ones

Number: **629**

c. 2 hundreds, 8 tens, and 5 ones

Number: 285

DAY 2: Your student will practise estimating different groups of objects and learn some strategies to help make estimations more accurate. Grouping objects by 100s, 10s, and 1s is introduced through the use of base ten blocks. You will need about 200 beans or other small counters in a container and base ten blocks available for today's activities.

DAY 2: LESSON 1

Answers

- 1. yes
 Sarah needs to check the bush because there are only about 100 cows in the picture.
- 2. 50
- 3. There are about **80** sheep in the field.

DAY 2: LESSON 2

Answers

- 1. no
- 2. Most students will count the hundreds flats first. They are easy to recognize, and it makes sense to count the largest unit first when estimating.
- 3. The student should be able to estimate the number of hundreds and tens accurately.
 - a. Estimate: 260 to 269 Count: 268
- b. Estimate: 500 to 520
 - Count: 519

- c. Estimate: 480 to 489
 - Count: 482

DAY 3: In today's activities, the student will construct bean sticks to make groups of 100, 10, and 1. These groups will be used to help the student understand place value. The student builds sets to illustrate numbers to 1000. Monitor the student's sets for accuracy. To build the sets you will need about 100 wooden craft sticks, beans (approximately 1000), glue, and elastic bands.

The student also learns how 0 is used as a place holder. As you make sets for the student, he or she will use a place-value chart to write numbers where zero is used as a place holder.

You will time your student while he or she completes a timed exercise as you did in Module 1. Assist the student in taking the Addition Facts Graph for Module 2 from the Appendix and filling in the column for Day 3. This chart should be posted in the student's work area to allow easy access. There will be exercises in Days 5, 8, 11, and 15. Graphing the results allows your student to easily see his or her progress. It is a good idea to have the student correct any errors that were made.

DAY 3: LESSON 1

Answers

1. a.

Hundreds (100)	Tens (10)	Ones (I)
		0000

Hundreds (100)	Tens (10)	Ones (I)
		0000

c.

Hundreds (100)	Tens (10)	Ones (I)
		0000

d.

Hundreds (100)	Tens (10)	Ones (I)
		00000

e.

Hundreds (100)	Tens (10)	Ones (I)
		et markens
		S Bennes
		and the second of the
00000		

f.

Hundreds (100)	Tens (10)	Ones (1)
		Aug.
		X. 3/
6000		

- 2. a. **3** hundreds, **2** tens, and **0** ones Number: **320**
 - b. 2 hundreds, 4 tens, and 9 ones Number: 249
 - c. **5** hundreds, **7** tens, and **2** ones Number: **572**
 - d. **2** hundreds, **0** tens, and **7** ones Number: **207**

DAY 3: LESSON 2

Answers

As you put the groups on the place-value mat, check the student's number for accuracy.

- 1. 104
- 2. 260
- 3. 203

Timed Exercise Answers:

$$5+5=10$$
 $6+7=13$ $9+9=18$ $3+8=11$

$$7+5=12$$
 $4+8=12$ $8+6=14$ $2+9=11$

$$8+9=17$$
 $9+7=16$ $8+5=13$ $4+9=13$

DAY 4: Base ten blocks are used to help the student develop a better understanding of place value. The student describes large numbers by writing the number as an equation. For example, 329 = 300 + 20 + 9. By experimenting with combinations of digits, the student learns that the position of a digit tells its value.

DAY 4: LESSON 1

Answers

- 1. There are 44 possible numbers. Do not expect the student to find all of them. One-digit numbers could include 1 or 2. Two-digit numbers could include 10, 11, 12, 20, 21, 22, 30, 31, 32, 40 41, 42. Three-digit numbers could include 100, 101, 102, 110, 111, 112, 120, 121,122, 130, 131, 132, 140, 141, 142, 200, 201, 202, 210, 211, 212, 220, 221, 222, 230, 231, 232, 240, 241, 242.
- 2. a. 463

b. 355

c. 316

DAY 4: LESSON 2

Answers

- 1. Luke has 486 pennies.
- 2. a. 632 = 600 + 30 + 2
 - b. 391 = 300 + 90 + 1

DAY 4: LESSON 3

Answers

- 1. and 3. The numbers will vary. The student could make 479, 497, 749, 794, 947, or 974.
- 2. and 4. a. The value of the 4 is
 - 400 in 479
 - 400 in 497
 - 40 in 749
 - 40 in 947
 - 4 in 974
 - 4 in 794
 - b. The value of the 9 is
 - 9 in 479
 - 9 in 749
 - 90 in 497
 - 90 in 794
 - 900 in 947
 - 900 in 974

- c. The value of the 7 is
 - 7 in 947
 - 70 in 479
 - 70 in 974
 - 700 in 749
 - 700 in 794
- 5. a. The value of the 8 is 80.
 - b. The value of the 8 is 800.
 - c. The value of the 8 is 8.
 - d. The value of the 8 is 80.

DAY 5: In this lesson, the student compares numbers to find out which is greater or less. The student will use concrete materials, pictures, and games to help compare numbers. Check the list of websites if your student needs extra practice with large numbers. When the timed exercise is completed, assist the student in correcting any errors and filling in the Addition Facts Graph for Day 5.

DAY 5: LESSON 1

Answers

- 1. 432 (This number should be circled.)
- 2. The student probably noticed that there were more hundreds in the number 432.
- 3. 562
- 4. The following numbers should be circled.
 - a. 764
- b. 699
- c. 341

- d. 553
- e. 1000
- f. 110

Timed Exercise Answers:

$$5+7=12$$
 $6+8=14$ $9+2=11$ $8+8=16$

$$7+6=13$$
 $4+9=13$ $8+5=13$ $2+8=10$

$$5+9=14$$
 $7+7=14$ $4+5=9$ $7+9=16$

11

DAY 6: The student learns to put three or more numbers in order from greatest to least or least to greatest. Concrete materials and base ten blocks are used to introduce this concept.

15

DAY 6: LESSON 1

Answers

12

1. a.

12



c.

2. a. All the numbers have 2 hundreds

b. 243

c. 235

3. 243 235 234

4. a. 759 835 844 b. 625 679 697 c. 389 451 932 5. a. 687 578 235

b. 851 765 756

c. 251 245 242 239

For the Extension Activity, make up several small cards with three-digit numbers on them. Give your student three cards, and ask him or her to put them in order from largest to smallest or from smallest to largest. Repeat several times with different cards.

PAY 7: To help extend the student's "number sense," several number riddles are posed. The student learns how to use an organized list to solve riddles and other problems. Odd and even numbers are reviewed. At the end of the lesson, the student has a chance to make up a riddle for you to solve.

DAY 7: LESSON 1

Answers

1. 257

275

527

572

725

752

- 2. Yes, Luke found all the combinations.
- 3. a. 964
- b. 694, 496, and 469
- c. 469

946 694

649

496

469

- 4. 401
- 5. 531

DAY 7: LESSON 2

Answers

25 I	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300

- 2. 438
- 3. 992
- 4. The student's riddle should make it possible to find a specific number. It may take a few tries for the student to make a riddle that does not have a list of answers.

PAY 8: Reading and writing number words to one hundred is the topic for this lesson. Reading and writing the number words to twenty is reviewed. The student observes the patterns of the number words and uses these patterns to write the numbers to 100. There is a timed exercise today. Assist the student by timing the activity and completing the Addition Facts Graph for Day 8.

DAY 8: LESSON 1

Answers

- 1. a. three
- b. five
- c. seven

- d. two g. twelve
- e. four
- f. eight

- j. eleven
- h. sixteen k. thirteen
- i. nineteenl. twenty

- 2. a. fourteen
- b. seventeen
- c. fifteen
- d. nine

- 3. a. ten
- b. hundred or one hundred
- c. one

DAY 8: LESSON 2

Answers

- 1. The number words all begin with the word *twenty*, followed by a word to tell the ones digit. The student may also mention that the numbers showing ones are in order or that it takes two words to write each of the numbers. They are compound words joined by a hyphen (-).
- 2. a. thirty-six
- b. fifty-eight
- c. eighty-two

- d. sixty-nine
- e. forty-four
- f. seventy-three

Timed Exercise Answers:

$$7 + 7 = 14$$
 $5 + 8 = 13$

$$8 + 2 = 10$$

$$8 + 9 = 17$$

$$6 + 6 = 12$$

$$7 + 9 = 16$$

$$7 + 5 = 12$$

$$4 + 8 = 12$$

$$5 + 6 = 11$$

$$7 + 8 = 15$$

$$4 + 5 = 9$$

$$6 + 9 = 15$$

$$\frac{7}{10}$$

$$\frac{8}{4}$$

$$\frac{3}{+8}$$

$$\frac{6}{13}$$

$$\frac{9}{11}$$

PAY 9: Today's activities involve the ordinal numbers and words to 100. The ordinals to 31 are reviewed and then the ordinals from 40 to 100 are introduced. This lesson also reinforces that ordinal numbers, like all numbers, are based on a pattern. If the student understands these patterns, learning the ordinal numbers and words can be much easier.

After the student has completed today's activities and assignments, have the student complete the Student's Checklist and Student's Comments. Complete the Home Instructor's Checklist and Home Instructor's Comments. Submit Assignment Booklet 2A to the teacher.

DAY 9: LESSON 1

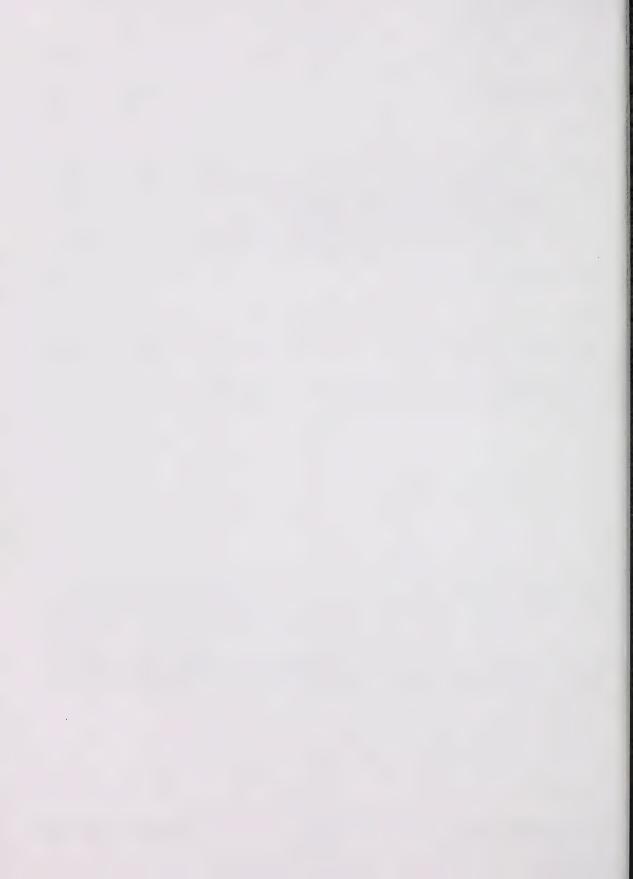
Answers

- 1. a. third
- b. horse c. tenth
- 2. a. Luke has a basketball game on the thirtieth of October.
 - b. The third Friday of October is the **nineteenth** day.
 - c. The family picnic is on the **twenty-seventh** of October.
 - d. The second Tuesday of the month is the **ninth** of October.
 - e. Luke is going to a concert on the twenty-second of October.

DAY 9: LESSON 2

Answers

- 1. In most of the words the y has been changed to ie, and the ending th has been added. For hundredth only a th is added.
- 2. a. fifty-fourth
- b. ninety-seventh
- c. eighty-ninth
- d. forty-second e. sixty-third
- f. seventy-sixth



ASSIGNMENT BOOKLET 2A

Grade Three Mathematics Module 2: Days 1–9

Home Instructor's Comments		FOR SCHOOL USE ONLY		
				Assigned Teacher:
				Date Assignment Received:
		Home Instructor's Signature	-	Grading:
	ı			
FOR HOME INSTRUCTOR USE (if label is missing or incorrect)		76		Additional Information:
Student File Number:	Here	abel is f	lule.	
	Apply Module Label Here	Me Please verify that preprinted label is for	correct course and module.	
Date Submitted:	Apply N	e verify t	correct	
		Address		
Teacher's Comments				

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

Teacher's Signature

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- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

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Do not enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

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- 2. All faxing costs are the responsibility of the sender.

E-MAILING

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GRADE THREE MATHEMATICS: MODULE 2

NUMBERS

Assignment Booklet 2A







Grade Three Mathematics Module 2: Numbers Count Assignment Booklet 2A Learning Technologies Branch

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Students	1
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1. Journal Entry

Tell about times that you would need to use large numbers.

2. Write the numbers that come next.

- c. 198

3. Use your base ten blocks to help answer the questions that follow.

- a. How many in ______? _____
- b. How many _____ in ? ____
- c. How many in ?_____

d. How many \square in a

e. How many \square in

4. Write each number.

c.

d.

1. Journal Entry

When you are estimating large numbers with base ten blocks, which blocks do you count first? Explain why.

2. Estimate each group. Then count the exact number.

Estimate: _____

Count: _____

b. ______

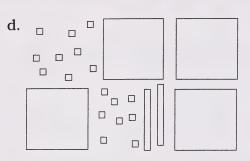
Estimate: _____

Count: _____

c.

Estimate:

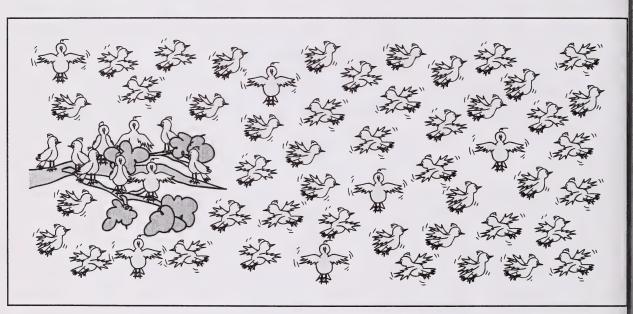
Count: _____



Estimate: _____

Count:

3. Luke saw a flock of birds sitting in a street. He wanted to know about how many there were. Use what you know about groups to estimate how many birds he saw.



I estimate that Luke saw _____ birds.

Look at the base ten blocks. Write the number. Then write it as a number sentence.

1.

Number: _____

Number sentence:

2.

Number: _____

Number sentence:

3.

Number:

Number sentence:

4. Count the pennies for Luke. There are 100 pennies in a roll and 10 pennies in each stack.

a. 100

b. (100

C. (100) (100) (100) (100)

100

d. 100 100 100 100 100

100

100

5. Write each number. You can use your base ten blocks and the place-value mat.

a. 6 hundreds, 9 tens, 4 ones

b. 3 hundreds, 6 ones

c. 2 hundreds, 4 tens, 2 ones

d. 8 hundreds, 5 tens

e. 3 tens. 9 ones

6. What is the value of 6 in the number 653? Explain how you know.

1. Circle the greater number in each pair.

- a. 432 523
- b. 389
- 398
- c. 581
- 583

- d. 670 669
- e. 400
- 399
- f. 888 879

2. Circle the least number in each pair.

- a. 654 564
- b. 769
- c. 310
 - 320

d. 432 437

b. 98

- e. 675
- 765

796

f. 403 430

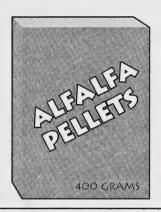
3. Put each group of numbers in order from greatest to least.

- a. 736 763 768

 - 101 97
- c. 210 208 251
- d. 543 540 550
- e. 309 390 307
- 4. a. Use the digits 3, 7, and 9 to make a number greater than 700.
 - b. Use the digits 4, 0, and 2 to make a number greater than 400.
 - c. Use the digits 7, 8, and 1 to make a number less than 700.

5. Sarah was at the pet store shopping for rabbit food. There were three boxes of food at the same price. Put the boxes in order from the least grams to the greatest grams, and help Sarah decide which box is the best deal.







grams	grams	grams
granis	Siams	grains

The box with _____ grams is the best deal.

- 1. What number am I? My digits are 2, 5, and 0. My hundreds digit is an odd number. My tens digit is less than my ones digit.
- 2. What number am I? I am greater than 201 and less than 219. My ones digit is 3. My tens digit is an even number and is less than my ones digit.
- 3. What number am I? My digits are 5, 9, and 2. My hundreds digit is larger than the other two digits. My tens digit is even.
- 4. Write your own "What number am I?" riddle. Your teacher will solve it. The answer should be one number, not a list of numbers.

1. Write each number in words.

a. 62 _____

b. 73 _____

c. 95 _____

d. 50 _____

e. 34 _____

f. 47____

2. Write each number.

a. fifty-six _____

b. thirty-six _____

c. seventy-nine ____

d. eighty-one _____

3. Count the blocks, and write each number in words.

a.

b. | | | | | | | | | |

c.

1. Look at the hundred chart. Write the ordinal words to finish the sentences below.

1	2	3	4	5	6	7	8	9	10
П	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	\Diamond	29	30
31	Z.	33	34	35	36	37	38	39	40
41	42	43	\bigcirc	45	46	47	48	49	
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	\	67	68	69	70
71	72	73	74	75	76	77	· ·	79	80
81	82	83	84	85	86	87	88	89	90
	92	93	94	95	96	97	98	99	100

a The sun is in the hox				_
	a.	The sun is in the		box.

Timed exercise: 2 minutes

Ask your home instructor to time you for 2 minutes. Do as many questions as you can in 2 minutes. Write how many you completed.

+ 4

+2

STUDENT'S CHECKLIST MODULE 2: DAYS 1 TO 9

I can	Put a check mark beside the things you can do.
read and write numerals to 1000	
use base ten blocks to build sets to 100	
use place value (hundreds, tens, and ones) to build numbers	
put 3 or 4 three-digit numbers in order from least to greatest	
read and write number words to 100	
read and write ordinal numbers to 100	

Did you h	ave difficu	lty with	any of th	ne activ	ities so fa	r? Expla	in.	
	.10							
0 41.								
Some thin	ngs I learne	ed in this	s part of	the mo	dule are			

			_
HOME INSTRUCTOR'S CHECKLIST			
Check yes or not yet for each question.			
Can the student do the following?			
• read and write numerals to 1000	□ yes	□ not yet	
 estimate groups with reasonable accuracy and adjust estimations 	□ yes	□ not yet	
• use base ten blocks to build sets to 1000	□ yes	□ not yet	
• use place value (hundreds, tens and ones) to make numbers	□ yes	□ not yet	
• put 3 or 4 three-digit numbers in order from least to greatest	☐ yes	□ not yet	
• read and write the number words to 100	□ yes	□ not yet	
• read, write, and understand ordinal numbers to 100	□ yes	□ not yet	
HOME INSTRUCTOR'S COMMENTS			